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Bi-Turbo chip board marvelous engineering

The Bi-Turbo board from Alloy Computer Products Inc. is a marvelous feat of engineering that will delight many heavy users of personal computers. In short, it puts a second microprocessor chip in your IBM PC, allowing two programs to be run at the same time — with almost no degradation in the speed of either program.

It's no big deal to just make a single computer run two programs simultaneously. Several heavily advertised programs do this trick without modifying the hardware at all. Windows from Microsoft, Topview from IBM and Desqview from Quarterdeck are good examples. In all these cases, however, the programs share the same microprocessor chip. As a result, everything slows down dramatically.

The Bi-Turbo is special because it eliminates the slowdown. Your IBM PC's original chip processes the first program being run as usual, almost undisturbed by the operations of the second one. The Bi-Turbo board also has its own bank of memory built in, so it's not competing with the original computer's memory.

How do you switch from using one program to another? It's easy. Just press the "Alt" and "." keys at the same time, and your screen instantly displays the other one. The original program proceeds to run even though you don't see it. The screen and keyboard now apply to the second one. When you want to switch back, you just press the same keys again, and the second program keeps running as you work on the first.

In almost all respects, the Bi-Turbo board is literally a second computer installed within your existing computer's box. I say "in almost all respects" because there is one crucial component of your existing system that's still shared — your hard disk. If the two programs being run both access the hard disk at the same time, there still will be some slowdown. In practice, however, I found that this

was not too bothersome — especially compared with the slowness experienced with the non-hardware alternatives.

There are, however, some disadvantages to the Bi-Turbo board that counterbalance some of the advantages. Here are key pros and cons, as I see them:



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✓ Pro. For heavy PC users, the device is a real time-saver. It eliminates almost all waiting for the computer, because it allows you to switch back and forth between tasks at will.

✓ Pro. You can access a file for information while running lengthy reports that use the same file.

✓ Pro. It's a space saver. It will eliminate the need for a second computer in many situations.

✓ Con. In situations where new programs are being written or tested, a system "hang" by one program could cause the other program being run to "hang" as well. When that happens, you have to reboot your entire system, and you lose whatever was in process. In such cases, having a completely separate system for testing is preferable.

✓ Con. It's not cheap. The board retails for \$995, which makes it difficult to justify unless you have a particular application that will justify its cost. Since some IBM PC clones are now available for less than \$1,000, including monitor and keyboard, you have to evaluate your situation to see if a second, low-cost system would work just as well.

✓ Con. Finally, be aware that it can't be installed easily on all computers that claim to operate identically to IBM PCs. I tried two, the Tandy 3000 HL and the Wells American A*Star II. By following the instructions supplied with the unit, it worked on the Tandy but not on the Wells American.

All in all, for business situations that allow the Bi-Turbo board to be used productively every day, it could be better than buying a second system.

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